IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of		Before the Board of Appeals	
Fumiko YANO		Appeal No.:	
Appl. No.:	09/731,850	Group:	2672
Filed:	December 8, 2000	Examiner:	F.F. SEMNANI
Conf.:	8820		
For:	CHARACTERISTIC DISPLAY DEVICE AND CHARACTER DISPLAY METHOD		

APPEAL BRIEF TRANSMITTAL FORM

MS APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 3, 2004

Sir:

Transmitted herewith is an Appeal Brief (in triplicate) on behalf of the Appellants in connection with the above-identified application.

☐ The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. § 1.8.

A Notice of Appeal was filed on July 6, 2004.

☐ Applicant claims small entity status in accordance with 37 C.F.R. § 1.27

The fee has been calculated as shown below:

☐ Extension of time fee pursuant to 37 C.F.R. §§ 1.17 and 1.136(a) - $0.00.

☒ Fee for filing an Appeal Brief - $330.00 (large entity).

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☐ Please charge Deposit Account No. 02-2448 in the amount of $0.00. A triplicate copy of this sheet is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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MRC/CJB/mlr
1163-0306P

Attachment(s)

(Rev. 02/08/2004)

Docket No. 1163-0306P

Application No. 09/731,850

MS APPEAL BRIEF - PATENTS
1163-0306P

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of	Before the Board of Appeals
Fumiko YANO	Appeal No.:
Appl. No.: 09/731,850	Group: 2672
Filed: December 8, 2000	Examiner: F. F. SEMNANI

For: CHARACTERISTIC DISPLAY DEVICE AND CHARACTER DISPLAY METHOD

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MS APPEAL BRIEF - PATENTS
1163-0306P

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of	Before the Board of Appeals
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Docket No. 1163-0306P Application No. 09/731,850

MS APPEAL BRIEF - PATENTS
1163-0306P

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BRIEF FOR APPELLANT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 3, 2004

Sir:

This appeal is from the decision of the Examiner dated April 5, 2004, finally rejecting claims 1-15, which are reproduced as an Appendix to this Brief. This Brief if being filed in triplicate with the requisite fee.

The commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to deposit account 02-2448.

I. Real Party in Interest

The named inventors have assigned their rights to the invention that is disclosed in the application and any patent that may issue therefrom to Mitsubishi Denki Kabushiki Kaisha, as recorded in the Patent and Trademark Office at Reel 011350, Frame 0103.

II. Related Appeals and Interferences

To the best of the knowledge of the undersigned, there are no other appeals or interferences known to Appellant, the Appellant's representatives, or the above noted assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. Status of the Claims

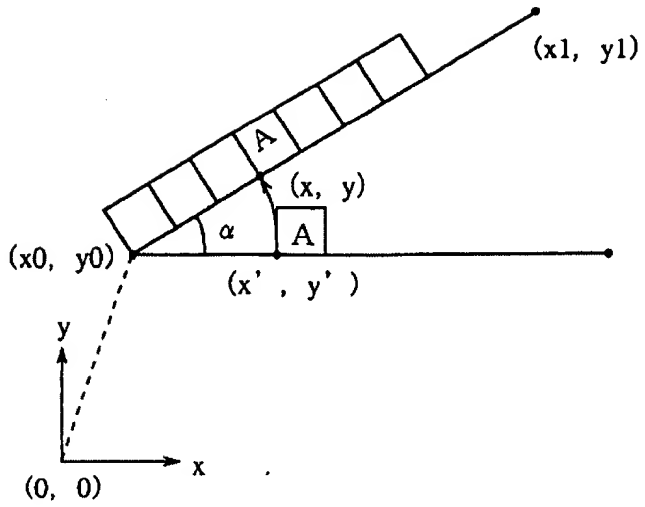
Claims 1-15 are currently pending in the application. Claims 1-15 are rejected and the subject of the appeal. Claims 1, 6, 11, 13 and 15 are independent claims.

IV. Status of Amendments

A Response was filed December 31, 2003 that included amendments to claims 1, 3-6, 11, 13 and 15. No amendments have been made subsequent to the December 31, 2003 Response.

V. Summary of the Invention

In character display devices of the prior art, typically a character series is first positioned on a horizontal line on an X-Y axis with the lower left corner of the first character being positioned at coordinates (0, 0). Once the character series is developed on the horizontal line, the character series, with the (0, 0) coordinate being the pivot point, is rotated about the axis at a desired angle. In doing this, the characters that were created on a horizontal line are modified when they are rotated at an angle. This causes the entire character series to look abnormal. Other methods of character display devices suffer from the same problem. When characters or character series are positioned at any angle other than a horizontal line and perpendicular line, the characters are modified and/or rotated so that they can be displayed at those angles. An example of a rotational operation as performed in the prior art is illustrated below.



Prior Art Rotational Method

Embodiments of the Appellant's invention are designed to overcome this problem of the conventional art. Appellant's invention displays characters on a personal computer or navigation device in a specific designated manner. Because Appellant's system is meant for applications in the computer and navigation system arts that provide information to a user via a display, a single character font and size can be used. By using a single character font and size, the characters in a character series can be displayed at various angles and positions without first performing a rotation operation or modifying the characters. Thus, the dot data is originally displayed relative to each other in a neat position having a pleasing appearance.

For example, Embodiment 1 of the present invention employs a 16 x 16 dot structure in order to reduce memory consumption. This size was utilized in a word processor around 1985 due to the high cost of memory at that time.

A 16 x16 dot structure was not visually pleasing and very ugly when characters where displayed in a slanted manner. With the cost of memory dramatically reduced, in word processing, to improve the ugly slant display and embellish the displayed characters, the dot structure has been enlarged, for example, to 24 x 24 or 36 x 36. However, in a character display device such as a navigation system, there is no need to embellish characters and with a need to keep the memory at a minimum for space purposes, such embellishment would take up too much memory. Thus, another means is necessary to improve the looks of slanted characters.

Embodiments of the present invention utilize the dot pattern of each character and a proximal reference point that is determined from the coordinate points of each character in a character series and its display of each character. A coordinate calculation is achieved from a display angle, display reference position and proximal reference point for each character. The proximal reference point of the preceding character is used in the determination of coordinate points of the following character in a character series. The characters are then displayed based on the coordinate calculation.

By employing proximal reference points, the device of Appellant's invention can display characters in, for example, eight different angles (Embodiment 1) or an arbitrary angle (Embodiment 3) from only two kinds of dot pattern for each character, i.e., slanted and normal, stored in memory.

Thus, the slanted characters can be displayed in an aesthetically pleasing manner by providing beautiful slanted characters, while utilizing little memory.

An illustration of the use of proximal reference points in displaying characters of a character series is provided on pages 10-14 of the Appellant's specification. For example, a character series "word" may be input at a character input section 11. The character series may have a display reference of (50, 50) which is input at a position input section 13. The display angle input at the angle input section 12 may be 315 degrees. Because the display angle is 315 degrees, the coordinate calculation means (shown as display control section 15 in Fig. 3) obtains proximal reference points for sloping characters from the recording means 14.

As is seen from Fig. 8 (reproduced below), starting with the upper left corner of the character "w" a proximal reference point of (7, 7) is obtained at the upper right corner. The proximal reference point becomes the starting point of the character "o". The proximal reference point of "o" is (5,5). The proximal reference points of "w" and "o" are used to determine the coordinates of "r" which is (12, 12). This continues for characters "r" and "d". Once this information is used to determine coordinates from an origin (0, 0) the coordinate calculation calculates the coordinates based upon the display reference (50, 50). The display coordinates based upon the proximal reference

points for an origin of (0, 0) is shown in Fig. 12 and for (50, 50) is shown in Fig. 13.

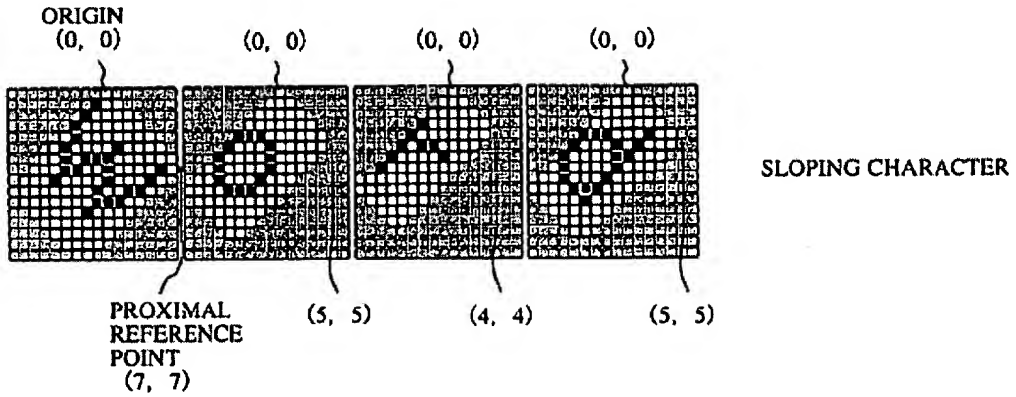


Fig. 8 of Appellant's Specification

As illustrated in Fig. 3, the coordinate calculation means 15 obtains data from the character input section 11, angle input section 12, position input section 13 and character recording section 14. The character recording section records the characters by creating the characters from dots starting at an origin point of (0, 0). The character recording section also records the proximal reference points of the recorded characters. See pages 10 last paragraph to page 11 first paragraph. Once the above information is obtained, the display control section calculates the coordinates of each character and the character series based on the obtained information. The character series is then precisely positioned on the display, with the characters in perfect configuration for the angle on which they are displayed. See pages 11-12.

Thus, by using proximal reference points and other display data in the manner above, the characters and character series can be displayed at a

precise defined location without modifications or performing a rotational operation.

VI. The Issues

The final Office Action presents one issue for review on Appeal.

1. Whether claims 1-15 are properly rejected under 35 U.S.C. § 102(b) as being anticipated by Seto et al. (Japanese Publication No. 10-293569A).

VII. Grouping of the Claims

For purpose of this appeal, Appellants group the claims as follows:

A) Independent claim 1 and it's dependent claims 2-5 stand or fall together
B) Independent claim 6 and it's dependent claims 7-10 stand or fall together
C) Independent claims 11 and it's dependent claim 12 stand or fall together
D) Independent claim 13 and it's dependent claim 14 stand or fall together
E) Independent claim 15 stands or falls by itself

VIII. Argument

A. Claims 1-15 are not properly rejected under 35 U.S.C. § 102(b) in view of Seto.

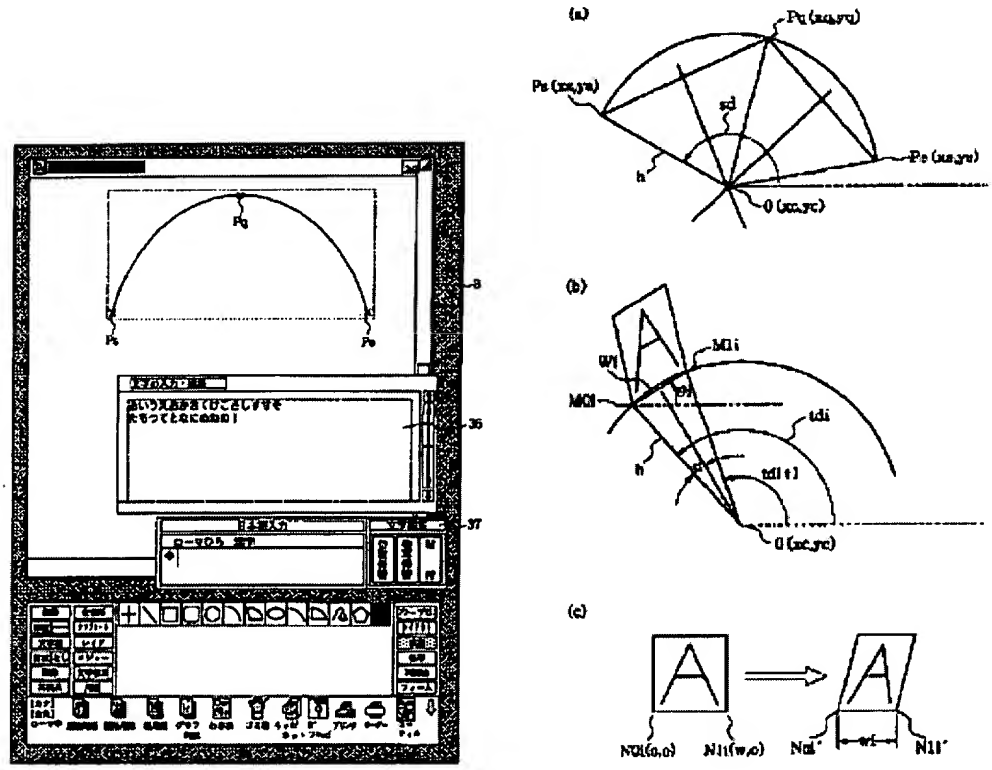
According to MPEP §2131, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claims." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913 (Fed. Cir. 1989). The elements must be arranged as required by the claims, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Seto Fails to Teach all the Claimed Limitations

Description of Seto

Seto discloses an image development and manipulation system that allows for manipulation of an arrangement of characters. Specifically, Seto provides the ability to place characters at various angles on a display. In accomplishing the above, in an embodiment of Seto, the system first determines a semi-circular arc path on which the characters will be placed. Three (3) positional points $P_s(X_sY_s)$, $P_e(X_e,Y_e)$, $P_q(X_q,Y_q)$ are determined. A fourth determinant $O_c(X_cY_c)$, which is the centric coordinate of the proposed circular

arc, is determined from the position points P_s and P_e. From the centric coordinate and the positional points, a half circle or an arc is symmetrically determined through each of the positional points. Once the arc is determined, each character is separately manipulated, each in a different manner so that the characters can be placed on the arc path. Figs. 5 and 9 of Seto, reproduced below, illustrate the creation of the arc path and placement of the characters.



Figs. 5 and 9 of Seto Illustrating Arc Path and Character Modification

The characters are manipulated or deformed by changing the slant orientation or size of the characters so that, depending on the placement of the character, the character exactly matches the arc path. For example, the character towards a positional point P_s and P_e will have a higher degree of slant than a character which is positioned at point P_q on the arc path. Further, the slant of the characters positioned at points P_s and P_e will be opposite, one slanting left the other right, since these characters are positioned at opposite ends of the arc paths. See Figs. 5, 8 and 9(a) through 9(c); column 4, lines 34 through column 5, lines 1-32 and column 7, lines 12-50 through column 8, lines 1-27 of Seto.

Appellant also notes that Seto's system is designed for use with a word processor. See paragraph 2, line 2. The word processor of Seto functions necessarily to perform modification and deformation of characters, therefore the uniformity and thus visual quality of the output characters may be deteriorated, especially when slanted characters are displayed. See paragraph 4, line 3. These deteriorations are caused, for example, by the alignment of dots that have been made in a non-uniform manner due to rotational transformation. Because the character is first created on a horizontal axis, the dots are aligned for a character at 0 degrees. When rotated the dot patterns shifts so that the character is viewed on an angle. The dot pattern was not specifically created for that angle and thus some dots invariable appear

misplaced causing the character to lose it's visual quality. To avoid the above problem, Seto performs modification of characters by separate means and displays a sample of the deformation character. See paragraphs 6 and 7.

Once the characters have been modified in Seto, the character to be displayed is configured by an array of points i (xi, yi). In other words, each character is composed by the accumulation of point i (Σxi, Σyi), and deformation of each character is made by a coordinate transformation for every point i (Xi, yi) to (xi, Yi). See paragraphs 21 and 22. Accordingly, Seto performs calculations to form respective characters (Σxi, Σyi) and to deform the characters (yi $\rightarrow$ Yi).

In Seto the display of characters is performed by designation of a start angle for the modified expanded character on the periphery of the arc circle. See paragraph 30 and Fig. 9. The rotational coordinate transformation (xi $\rightarrow$ Xi) utilizing the start angle is then performed. See paragraphs 40 and 41. The character obtained by the above described manner, has been deformed and rotated. The character is then arranged at a position based from where the character series begins. Therefore, a position from where the next character is started in the display cannot be determined until the entire calculation for the character display is completed.

In another embodiment of Seto, the characters can be displayed on a slant. To perform the slanted display, Seto calculates the display position (xi,

yi) for every character i every time, see paragraph [0022]. From the calculated width (Wi) of the character for every character i, a display starting point for the next character is determined, see paragraph [0035]. Thus, a calculation position for every character is necessarily performed.

Because positional calculations are performed for each character, a modification or deformation of the character is also independently calculated for each character. In word processors, such as Seto, specific information for each character such as long type ratio rx1, plane type ratio ry1 and slant type tangent values rx2, ry2, are used in calculating the deformation or modification for each character. Seto uses these values to determine the position and deformation of each character and thus the next character in the character series must be independently calculated.

Claims 1 and 6

Because Appellant's invention does not obtain slanted characters based upon rotation and/or deformation of the character, there is no need to independently calculate for (1) contour (xi, yi), (2) deformation transformation (yi → Yi) or (3) rotational transformation (xi → Xi) for each character, as taught by Seto. Instead Appellant uses a system based upon proximal reference points of each character, the proximal reference points being contained in a memory and thus a separate calculation for each character is unnecessary.

The proximal reference point is originally decided and stored in a memory with a dot pattern of each character. The only calculation performed in Appellants' invention is achieved by the coordinate calculation means. The coordinate calculation device calculates the starting point from which the character series will be positioned. This calculation is achieved using a display angle, the angle at which the character series is positioned, a display reference position and a proximal reference point for each character. The characters are then displayed based on the coordinate calculation. This allows the characters to be displayed without being modified and/or deformed (e.g. slanted).

Seto doesn't teach the use of a proximal reference each character. The system of Seto relies upon an expansion coordinate P_s, expansion and position coordinate P_e, and a periphery specification position coordinate P_q as illustrated in Fig. 5, to obtain an arc path where the characters are to be placed around. See paragraph 17 of the Examiner's machine translation. Further, as illustrated in Fig. 9, an origin point for the arc path is provided in order to reference each character through the arc path.

Thus, Seto provides coordinate points for each character, but fails to teach or suggest proximal reference points associated with each character, which is used in determining a display position. The Examiner provides a blanket statement that the proximal reference point is provided within "drawing 1 reference numbers 9 and 11, in paragraph [002] line 2 on page 3,

and paragraph [0010] line 21 on page 6 through line 4 on page 7". These particular references in Seto, teach the coordinate reference points discussed above which are associated with Seto's system. The coordinate points of Seto are used to determine an arc path on which the individual characters are displayed. However, Appellant respectfully submits that the coordinate reference points of Seto are not the claimed proximal reference points.

Due to appellants use of proximal reference points, when a first character of the character series is selected, a position where the next character begins is automatically decided on the slanted line corresponding to the specified angle of placement. In other words, when character elements of any character series is selected, all the positions for respective characters on the slanted line are already decided due to the proximal reference points of each character.

The Examiner has failed to provide a particular feature of Seto which anticipates Appellant's claimed proximal reference point. As provided in the Appellant's invention, each character within the character series obtains a proximal reference point from the memory. The proximal reference point is associated with the placement of the character in the character series. Because the proximal reference points are used in Appellant's invention each character in a character series is obtained from memory in the dot pattern level for the location that is desired. Creation of the character and then

manipulation of that character to fit a desired location as taught by Seto is not performed in the Appellants claimed invention.

Further, Seto's teachings are contrary to the present invention. Seto's system "deforms" the characters, each character of a character series being separately deformed in order to be displayed around arc path. Particular use of the word "deforming" is found in the description of Figs. 5-8 of Seto. The term "deformation" is also used in the language of the claims of Seto. For example, claim 1 of Seto recites, *inter alia*, "character-manipulation equipment characterized by having the means on which the deformation screen for specifying character deformation information is displayed". Appellant directs the Examiner to Figs. 8 and 9(c) of Seto where it illustrates the characters being modified respective of the position the characters are located on the screen. Thus, the characters are modified or as described in Seto "deformed" and therefore, not displayed without modification as claimed by Appellant.

Furthermore, nowhere in Seto does it suggest or teach positioning characters at the dot pattern level. Seto first creates a character at the dot level, but the character is not positioned when created. The character is then modified and the modified character moved and positioned.

In view of the above, Appellant respectfully submits that the Examiner has failed to establish that Seto teaches each and every feature of claims 1 and

6, as required under 35 U.S.C. §102. Appellant respectfully submits that dependent claims 2-5 and 7-10 are patentable over Seto for the above reasons.

Claims 11 and 13

Appellant respectfully submits that the arguments presented above for claims 1 and 6 regarding the proximal reference points and lack of modification, also apply to claims 11 and 13. These arguments are hereby incorporated by reference.

In addition to the arguments above, regarding claims 11 and 13 Appellant respectfully submits that Seto fails to teach calculating display coordinates of said dot pattern of each character based on the proximal reference points and character display data and displaying the characters based on these coordinates.

Seto teaches that an arc path is designated that provides the guideline for displaying characters in a character series. As illustrated in Fig. 9 and discussed in paragraphs 38-41 of Seto, a character is created and then modified to fit on the arc. Coordinate points on the arc are used in determining how the character is modified and where the modified character is placed on the arc. Obtaining coordinates of the dot pattern of each character is not taught by Seto. Once modified the entire character is positioned at the coordinated on the arc in Seto. Each dot pattern does not obtain it's own

coordinate, let alone, based on a proximal reference point also not taught by Seto or character display data.

Thus, Appellant respectfully submits that Seto fails to teach each feature of Appellants claims 11 and 13 as required. Appellant respectfully submits that dependent claims 12 and 14 are patentable over Seto for the above reasons.

Claim 15

Appellant respectfully submits that the arguments presented above for claims 1 and 6 regarding the proximal reference points, character display calculator and display control, also apply to claim 15. These arguments are hereby incorporated by reference.

In addition to the arguments above, Appellant respectfully submits that Seto fails to teach "wherein the dimensions of each character are maintained upon displaying each character at said display position".

As argued above, Seto necessarily performs modification on the characters in a character series before displaying the characters on a determined arc path. A description of this modification is provided in paragraph 38 and shown in Fig. 8. Depending on where the character is positioned on the arc depends on how the dimensions of the original character or modified. Seto in fact states that the characters are "deformed" or modified when discussing Figs. 5-8.

Appellant's apparatus does not modify the dimensions of the characters. As recited in claim 15, the "dimensions of the character are maintained" when displayed. This is due to the use of proximal reference points for each character and a calculated display coordinate achieved for the dot pattern of each character from the proximal reference point and display data.

Therefore, along with failing to teach the use of proximal reference points and calculating coordinates for the dot patterns of the character, Seto also fails to teach the maintaining of the character dimensions when displaying the characters. Thus, Appellant respectfully submits that Seto fails to teach every feature of claim 15 as required.

IX. Conclusion

Based on the reasons set forth above, the rejections of claims 1-15 under 35 U.S.C. §102 should be REVERSED. As shown in the foregoing arguments, the claimed features of the present invention are not disclosed or suggested in the cited documents. Further, one of ordinary skill in the art would not look to combine the teachings of the references. Accordingly, reversal of the rejection is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Appendix – Claims Appealed

APPENDIX – CLAIMS APPEALED

Claim 1.

A character display device to display one or more characters without modification, comprising:

a recording means recording a dot pattern and a proximal reference point of each character of a character series;

a coordinate calculation means obtaining said proximal reference point of each character of said character series from said recording means and calculating a display position of each character from a display angle, display reference position, said proximal reference point and a proximal reference point of said character series; and

a display means obtaining said dot pattern for each character of said character series from said recording means and displaying each character based on said calculated display position of each character calculated by said coordinate calculation means.

Claim 2.

A character display device according to claim 1, wherein, when said recording means records dot patterns and proximal reference points of sloping characters which slope at an arbitrary angle apart from normal non-sloping characters, said display means and said coordinate calculation means select a

normal character or a sloping character depending on a display angle of said character series and obtain dot patterns and proximal reference points of said selected characters.

Claim 3.

A character display device according to claim 1, wherein said display means and said coordinate calculation means compare an angle of slope of a normal and a sloping character with said display angle of said character series and select a normal character or a sloping character having an angle of slope most approximating said display angle.

Claim 4.

A character display device according to claim 1, further comprising an input means allowing input of said character series to be displayed, and said display angle and said display reference position of said character series.

Claim 5.

A character display device according to claim 1, further comprising a reading means reading said character series to be displayed being recorded in a memory, and said display angle and said display reference position of said character series.

Claim 6.

A method of character display to display one or more characters without modification, comprising the steps of:

obtaining a proximal reference point of each character of a character series;

calculating, through a coordinate calculation means, a display position of each character from a display angle, display reference position, said proximal reference point and a proximal reference point of said character series;

obtaining a dot pattern for each character of said character series; and

displaying each character based on said calculated display position of each character calculated by said coordinate calculation means.

Claim 7.

A character display method according to claim 6, further comprising the step of selecting a normal character or a sloping character depending on a display angle of said character series and obtaining dot patterns and proximal reference points of said selected characters, when said recording means records dot patterns and proximal reference points of sloping characters which slope at an arbitrary angle apart from normal non-sloping characters.

Claim 8.

A character display method according to claim 7, further comprising the steps of:

comparing an angle of slope of a normal and a sloping character with a display angle of a character series; and

selecting a normal character or a sloping character having an angle of slope most approximating said display angle.

Claim 9.

A character display method according to claim 6, further comprising the step of inputting a character series to be displayed, and a display angle and display reference position of said character series.

Claim 10.

A character display method according to claim 6, further comprising the step of reading a character series to be displayed being recorded in a memory, and a display angle and display reference position of said character series.

Claim 11.

An apparatus which displays one or more characters of a character string in a desired position on a display device without modification, comprising:

a data input section in which character display data is provided by a user;

a character recorder which records a dot pattern and a proximal reference point of each character;

a character display calculator that obtain said proximal reference point for each character and calculates display coordinates of said dot pattern of each character based on the character display data; and

a display control that controls a positional display of each character based on the calculated display coordinates.

Claim 12.

The apparatus of claim 11, wherein the character display data includes the characters to be displayed, an angle of display and a position of display.

Claim 13.

A method for displaying one or more characters of a character string in a desired position on a display device without modification, comprising the steps of:

inputting character display data;

recording a dot pattern and a proximal reference point of each character of said character string;

obtaining said proximal reference point for each character;

calculating display coordinates of said dot pattern of each character based on the proximal reference points and the character display data; and

displaying each character based on the calculated display coordinates.

Claim 14.

The method of claim 13, wherein the character display data includes the characters to be displayed, an angle of display and a position of display.

Claim 15.

An apparatus which displays one or more characters of a character string in a desired position on a display device, comprising:

a data input section in which character display data is provided by a user;

a character recorder which records a dot pattern and a proximal reference point of each character;

a character display calculator that obtains said proximal reference point for each character and calculates display coordinates of said dot pattern of each character based on the character display data; and

a display control that controls a display position of each character based on the calculated display coordinates;

wherein dimensions of each character are maintained upon displaying each character at said display position.